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Birthweight Effects in Infancy and Early Childhood

Low birth weight (LBW) has been shown to be strongly correlated a wide variety of developmental and health outcomes in childhood and adulthood in many studies. However, cross-sectional study designs that have been typically used make it unclear whether these associations are caused by intrauterine malnutrition *per se* or whether they are mediated by genetic and/or shared environmental effects.

Twins-based studies, which have the ability to match children these on maternal, environmental and even genetic factors, have been used to examine LBW's effect on adult outcomes but not early life developmental outcomes. We use data on twins and singleton births from the first two waves of the ECLS-B to examine the effect of very LBW (<1500g) and moderately LBW (1500-2499g) on children's mental and motor development, and physical growth during the first two years of life. We estimate both within-twins and across-twins estimates of LBW.

We find that within-twins estimates of LBW effects are significantly smaller (although still sizeable) compared to those from conventional analyses, suggesting that a significant part of the correlation between LBW and early life developmental outcomes are due to maternal, environmental, and genetic factors. Moreover, there is no consistent evidence of any catch-up occurring between LBW and NBW children during the first two years for all outcome examined, except weight-for-stature.